

## REMARKS

Claims 1-9, 11-18 and 24-28, as amended, and new claim 29 are pending in this application. In this Response, Applicant has amended certain claims. In light of the Office Action, Applicant believes these amendments serve a useful clarification purpose, independent of patentability. Accordingly, Applicant respectfully submits that the claim amendments do not limit the range of any permissible equivalents.

In particular, independent claims 1, 12, and 24 have been amended to further clarify the embodiments of the present invention. Finally, claim 10 has been canceled, and new claim 29 has been added. As no new matter has been added by the amendments herein, Applicants respectfully request entry of these amendments at this time.

## THE REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-18 and 24-28 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,342,054 to Chang et al. (“Chang”), U.S. Patent No. 5,372,365 to McTeigue et al. (“McTeigue”), U.S. Patent No. 4,451,043 to Ogawa et al. (“Ogawa”), U.S. Patent No. 5,447,314 to Yamazaki et al. (“Yamazaki”), U.S. Patent No. 6,983,637 to Nesbit et al. (“Nesbit”), and further in view of U.S. Patent Publication 2004/0032970 to Kiraly (“Kiraly”) for the reasons set forth on pages 2-9 of the Office Action.

### *The Cited Combination of References Fails to Disclose or Suggest All of the Features of the Present Invention*

As a threshold matter, Applicant renews and incorporates the arguments previously presented against the combination of Chang, McTeigue, Ogawa, Yamazaki, and Nesbit, which will be briefly described below.

The Examiner appears to recognize that Chang does not disclose or suggest the use of an ultrasonic trigger. Office Action at Page 3. Rather, the apparatus of Chang uses a light beam. Col. 7, lines 15-18 and 22-26. In an effort to remedy this deficiency, the Examiner cited McTeigue, and asserted that McTeigue is a related golfing system. *Id.*

However, McTeigue is completely unrelated to Chang in that McTeigue does not even suggest an apparatus with a trigger or a camera system. Rather, McTeigue discloses an apparatus that includes sensors, which are used to monitor user factors such as force exerted by the user on a substrate, the angle between a part of a user’s body and a preselected direction or plane. Col. 5, lines 22-26. While more than one sensor may be used, the sensors

in McTeigue are clearly limited to pressure sensors (Col. 6, lines 30-34), inclinometers (Col. 8, lines 23-28), and angular displacement sensors (Col. 8, lines 56-62).

Further, it appears that the Examiner is confused as to what constitutes a trigger. For example, the Examiner asserts that a trigger is a device for communicating user signals. Office Action at Page 3. However, as would be appreciated by a skilled artisan reading the claims in light of the Written Description, a trigger is a device that initiates an action upon the occurrence of an event. For example, the trigger of Chang is a light beam that initiates a camera system when the light beam is broken. Col. 7, lines 22-26. As such, the ultrasonic transmitter of McTeigue is not a trigger at least because it does not initiate the occurrence of an event. Rather, the ultrasonic transmitter is merely a communication device. Further, McTeigue does not even disclose the use of a camera system or a trigger.

The Examiner also cited Ogawa for the purported use of an ultrasonic trigger. However, Ogawa teaches that multiple sensors are necessary to compute the velocity of the club head. Col. 2, lines 46-63. Further, the sensors of Ogawa are located under a mat (Abstract), and not in front of a target area, as presently recited. As such, the Ogawa fails to disclose or suggest all of the features of the present invention.

The Examiner also cited Yamazaki for the purported use of an ultrasonic sensor that relays information. Office Action at Page 4. However, as discussed above with respect to McTeigue, a communication device is not the equivalent of a trigger. As such, the ultrasonic emitter of Yamazaki could not even remotely be considered a trigger. Rather, Yamazaki clearly utilizes a micromagnetometer as a device for activating the sound generation system. Col. 2, lines 43-64. As such, the only disclosure of a trigger in Yamazaki is the disclosure of the micromagnetometer, which has no relationship to an ultrasonic trigger.

In addition, the Examiner cited Nesbit for the purported use of an ultrasonic trigger. However, as discussed in the Applicant's response dated February 27, 2008, Nesbit's "trigger" is not in communication with a computing device that controls image acquisition. Rather, Nesbit's trigger initiates acquisition of the strain gages and/or accelerometers. Col. 6, lines 33-37. Nesbit's system does not include any cameras or other method of obtaining optical images. In fact, the only "images" involved in Nesbit's system are graphical images produced as the result of the collection of the acceleration and deflection measurements. Col. 4, line 65 to Col. 5, line 7. Therefore, there is clearly no operative connection from a trigger to a computing device to an imaging device in Nesbit as presently recited

As discussed in the last response dated June 3, 2009, and apparently recognized by the Examiner on page 5 of the Office Action, the combination of Chang, McTeigue, Ogawa,

Yamazaki, and Nesbit fails to disclose or suggest an ultrasonic triggering system that is positioned to accommodate both a left and right handed golfer. This deficiency is due to the fact that a triggering system requires an object to move across one or more sensors in a predetermined direction in order to register the movement.

In an effort to remedy this deficiency, the Examiner has cited Kiraly. Office Action at Page 5. However, Kiraly does not even mention an ultrasonic trigger. Rather, the apparatus of Kiraly scans the pixels of a portion of a camera window to monitor when a golf ball or golf club comes into view. Para. [0073]. Thus, it appears that the camera must be in constant operation, and is not triggered by anything. Therefore, Kiraly does not disclose or suggest all of the features of the present invention

In addition, the Examiner asserted that it would have been obvious to try to adapt a system for use by both right and left handed golfers. Office Action at Page 5. The present invention, however, features an ultrasonic triggering mechanism positioned to allow for use by both left and right handed golfers without the need for adjustment. The Examiner has provided no support for the assertion that it is obvious to adapt a launch monitor in such a manner. As such, applicant respectfully submits that the featured positioning of the ultrasonic trigger would not have been obvious to try. To the contrary, the present invention eliminates the need for repetitive adjustment of the device to accommodate different golfers.

*The Examiner Fails to Provide a Motivation to Combine the References*

A determination of whether a claimed invention would have been obvious under 35 U.S.C. § 103 requires showing that "there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l Co. v. TeleFlex Inc.*, 127 S.Ct. 1727, 1741 (2007). Further, the Federal Circuit has warned that "we must still be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be combined to produce the claimed invention." *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 n.3 (Fed. Cir. 2008).

Applicant respectfully submits that the Examiner has failed to demonstrate both how and why a skilled artisan would have combined the cited references to arrive at the present invention.

For example, the Examiner asserted that the system of McTeigue "teaches that measurements and triggering operations are dependent open [sic] the player's orientation." Office Action at Page 9. As discussed above, the only disclosure of an ultrasonic device in

McTeigue is as a transmitter for the communication of a signal. *See, e.g.*, Col. 10, lines 25-33. In fact, the user turns on the system, and may be given a predetermined amount of time before the system is activated for operation. *See, e.g.*, Col. 9, line 65 to Col. 10, line 10. As such, the only trigger in McTeigue is the on/off function. Therefore, it is unclear how or why the apparatus of McTeigue would be incorporated into the camera system of Cheng. In addition, any attempt to use an ultrasonic transmitter taught by McTeigue in the apparatus of Chang would result in the triggering mechanism of Chang (a light beam) communicating the breaking of the light beam by way of an ultrasonic signal to the processor of Chang. As such, it is unclear how or why a skilled artisan would arrive at the present invention by combining the teachings of McTeigue with the apparatus of Chang.

Not only does Kiraly fail to disclose or suggest the use of an ultrasonic trigger, as discussed above, but Kiraly also fails to teach how an ultrasonic trigger would be employed to determine the movement of an object swung by a left or right handed golfer. As such, a skilled artisan would not have attempted to modify the camera system of Cheng by using an ultrasonic trigger. Rather, a skilled artisan would have utilized the pixel scanning technique taught by Kiraly with the camera system of Chang to trigger a the image capture.

*The Proposed Combination of Ogawa and Chang Destroys the Principle of Operation of Ogawa*

The Examiner asserts that “Ogawa teaches the use of an ultrasonic detect [sic] means as an art equivalent to three magnetic sensors...” Office Action at Page 3. As discussed above, Ogawa teaches that multiple sensors are necessary to compute the velocity of the club head. Col. 2, lines 46-63. However, the Examiner’s erroneous interpretation of Ogawa (using a single ultrasonic sensor) would destroy the principle of operation Ogawa at least because the disclosed method for the calculation of velocity would be impossible.

In sum, Applicant submits that the cited combination fails to disclose or suggest all of the features of the present invention. Further, the Examiner has not provided how or why the references would be combined to arrive at the present invention. As such, reconsideration and allowance of the pending claims is respectfully requested.

**CONCLUSION**

All claims are believed to be in condition for allowance. Applicant invites the Examiner to contact the undersigned attorneys to discuss any issues pertaining to the patentability of the pending claims.

A Petition for an Extension of Time is submitted to extend the time for response three months to and including December 4, 2009. No other fees are believed to be due at this time. Should any other fees be required, however, please charge such fee to Hanify & King, P.C. Deposit Account No. 50-4545, Order No. 5222-017-US01.

Respectfully submitted,  
**HANIFY & KING**  
**Professional Corporation**

Dated: December 4, 2009

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